

## ABSTRACT OF THE DISCLOSURE

The present invention provides a vaccine for inducing an immune response in mammal to a specific antigen, where the vaccine comprises a unit dose of a binary toxin protective antigen and the antigen, which is bound to a binary toxin protective antigen binding protein. In one embodiment the vaccine is comprised of an anthrax protective antigen and the antigen bound to anthrax protective antigen binding protein. The present invention also provides a method of immunizing a mammal against an antigen using the vaccine, and a method of inducing antigen-presenting mammalian cells to present specific antigens via the MHC class I processing pathway.